



KNX K4

Actuator for heating and cooling

Technical specifications and installation instructions

Item number 70320



Elsner Elektronik GmbH Control and Automation Engineering

Sohlegrund 16
75395 Ostelsheim
Germany

Phone +49 (0) 70 33 / 30 945-0 info@elsner-elektronik.de
Fax +49 (0) 70 33 / 30 945-20 www.elsner-elektronik.de

Technical support: +49 (0) 70 33 / 30 945-250

1. Description

The **KNX K4 actuator** offers four internal temperature regulators and four output channels for controlling heating or cooling systems. The temperature regulators can control both the outputs on the **KNX K4** and other climate control system on the KNX-Bus.

In automatic mode, the temperature regulators are set at nominal temperatures for different modes. This way, it is easy to switch between the modes, comfort, standby, eco and building protection. The switch is made via an object e. g. via a manual switch, time switch or sensor switch outputs in the KNX-System.

The buttons on the device allow for direct manual switching of the connected systems. LEDs show whether the output channel was manually operated or is running in an automatic mode.

Functions:

- **4 internal, independent temperature regulators** with automatic controls for the **heating and cooling controls** (one/two step heating and cooling)
- **4 output channels** (230 V AC, 8 Watt per output) with pulse width modulation control (PWM) for actuators
- Keypad field **4 buttons** and status LEDs

Configuration is made using the KNX software ETS. The **product file** can be downloaded from the Elsner Elektronik homepage on www.elsner-elektronik.de in the "Service" menu.

1.1. Technical data

Housing	Plastic
Colour	White
Mounting	Series installation on mounting rail
Protection category	IP 20
Dimensions	approx. 53 x 88 x 60 (W x H x D, mm), 3 modules
Weight	approx. 110 g
Ambient temperature	Operation -20...+70°C, storage -55...+90°C
Ambient humidity	max. 95% RH, avoid condensation
Operating voltage	KNX bus voltage
Power	on bus: 10 mA
Outputs	4 x 230 V (OUT/N), not short-circuit-proof. When connecting one consumer load per separate channel (1 to 4): Max. load for continuous operation: 8 W per channel Max. switch-on current: 1.1 A per channel Observe the specifications in the data sheet of the consumer load.
Data output	KNX +/- bus connector terminal
BCU type	unit's own microcontroller

PEI type	0
Group addresses	max. 254
Assignments	max. 254
Communication objects	125

The product conforms with the provisions of EU directives.

2. Installation and start-up

2.1. Installation notes



Installation, testing, operational start-up and troubleshooting should only be performed by an electrician.



DANGER!

Risk to life from live voltage (mains voltage)!

There are unprotected live components within the device.

- VDE regulations and national regulations are to be followed.
- Ensure that all lines to be assembled are free of voltage and take precautions against accidental switching on.
- Do not use the device if it is damaged.
- Take the device or system out of service and secure it against unintentional use, if it can be assumed, that risk-free operation is no longer guaranteed.

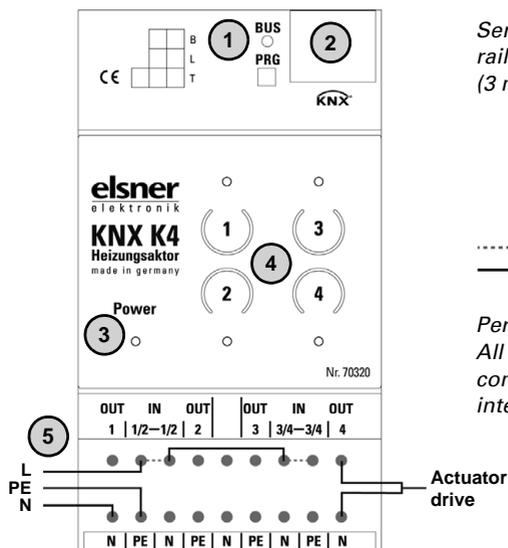
The device is only to be used for its intended purpose. Any improper modification or failure to follow the operating instructions voids any and all warranty and guarantee claims.

After unpacking the device, check it immediately for possible mechanical damage. If it has been damaged in transport, inform the supplier immediately.

The device may only be used as a fixed-site installation; that means only when assembled and after conclusion of all installation and operational start-up tasks and only in the surroundings designated for it.

Elsner Elektronik is not liable for any changes in norms and standards which may occur after publication of these operating instructions.

2.2. Device connection and design



Series installation on mounting rail
(3 modules)

..... Internally bridged
— cables

Per output max. 8 W
All terminals N or PE of the lower connection strip are bridged internally.

- 1) Programming LED and programming buttons (PRG)
- 2) Bus terminal slot (KNX +/-)
- 3) Power LED (supply voltage/Bus)
- 4) Buttons and LEDs outputs 1-4
- 5) **Sample connection:** L (230 V) was bridged in this example from IN 1/2 to IN 3/4. Actuator on output 4 (OUT 4 | N)

2.3. Notes on mounting and commissioning

Device must not be exposed to water (rain). This could result in the electronics being damaged. A relative air humidity of 95% must not be exceeded. Avoid condensation.

After the operating voltage has been applied, the device will enter an initialisation phase lasting a few seconds. During this phase no information can be received or sent via the bus.

2.3.1. Buttons and LEDs for the output channels

The buttons on the devices can be deactivated in the ETS (active when delivered).

Buttons

brief button press (<0,5 s)	LED shows current status (see ETS parameter: Channel LED)
button press >0,5 s	<i>in Automatic mode:</i> Switching to Manual mode <i>in Manal mode:</i> Switching from manually ON to manually OFF and reverse
long button press (>3 s)	Switching to Automatic mode (when activated in ETS)

LEDs

Behaviour of the LEDs for the output channels

in Automatic mode:

Off	Actuating variable = 0%
On	Actuating variable > 0%

in Manual mode:

Flashes slowly	Manually OFF
Flashes fast	Manually ON